

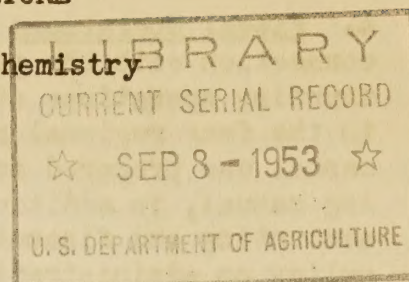
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UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Agricultural and Industrial Chemistry

Annual Report on Management

August 28, 1953



G E N E R A L

Many excellent examples of good management practice are on record in the Bureau for the fiscal year 1953. The following are selected examples which will serve to highlight the activities of the Bureau during the past fiscal year:

1. Rockefeller Public Service Award - In February 1953 the Chief of the Bureau was notified that he was the recipient of one of the Rockefeller Public Service Awards designed to give special recognition to outstanding public service by civilians in the Federal Government. The Bureau Chief's intense interest in administrative management and the realization of its importance in the administration of federal programs encouraged him to apply for one of the Rockefeller awards with the intention of using it to attend the Advanced Management Program of the Harvard University Graduate School of Business Administration. The Chief of the Bureau was one of 11 federal employees so honored. The award carries a \$6,000 stipend which will permit the Chief of Bureau to attend Harvard University this fall for approximately 3 months on leave without pay from his position in the Bureau. This invaluable opportunity which is being presented without cost to the Government should increase the effectiveness of the Chief of Bureau as a federal administrator of public research.
2. Commodity Conferences - During the fiscal year the Bureau held many group meetings and formal conferences to exchange ideas and information with other research workers, farmers and processors as a device for assuring that the Bureau's research programs are in consonance with the needs. For instance, during the latter part of the fiscal year 1953 two highly important commodity conferences, sponsored by the Bureau, were held in Washington, D. C., one concerned with Fruits and Vegetables, the other with Fats and Oils. Both conferences were attended by the top planning staff of the Bureau and experts in various research fields both of this organization and other bureaus and agencies of the Department as well as representatives of industry. These conferences have provided a convenient, economical, and worthwhile method of obtaining, in a short space of a few days, a comprehensive, well coordinated view of the national situation with respect to these commodities and the reports of these conferences will provide a basis for planning research programs of the Bureau.
3. Bureau Policy Manual - During the fiscal year 1953 a Bureau Policy Manual was prepared and distributed. This manual is a compilation of currently effective policy pronouncements and directives issued by the Office of the Chief of Bureau during the past several years. It is used as a guide for top officials in planning, supervising, directing and coordinating the Bureau operations. The manual is thoroughly indexed and conveniently bound for ease in inserting revisions.

4. Fiscal Operations - Intensive work continued during the fiscal year 1953 in connection with the program begun in the fiscal year 1952 for improving the accounting operations of the Bureau. Decentralization of the general ledger records to the four regional research laboratories was accomplished and a new accounting manual was prepared and is now being used throughout the Bureau. The new accounting manual, in addition to containing operating procedures and instructions for accounting and financial reporting, also includes such sections as the Bureau policy on administrative control under apportionments, organization charts, denoting lines of authority in conjunction with fiscal operations, historical background of the Bureau, and a statement on accounting principles.

5. Research Line Project System - During the fiscal year 1953 the Bureau completed a rather extensive program of review and revision of its research line projects, the basic technical documents which outline particular phases of the research program being undertaken. Changes instituted in the method of preparation have resulted in research line projects more specific and more current as concerns the importance of the problem and the approach to the solution, and generally more informative. This has in turn resulted in more effective evaluation of the problem in the Office of the Chief of Bureau, better coordination of all Bureau line projects, and a more valuable reporting medium.

6. Personnel Management - (a) A comprehensive survey was initiated during the latter part of the fiscal year with the assistance of the Office of Personnel, to determine requirements for and development of a Bureau supervisory training program with particular reference to the needs in relation to research workers. This survey has now been completed and a report with recommendations is being prepared. Preliminary discussions on results of the survey indicate a wealth of valuable information which should provide a sound basis for a program of supervisory training in the Bureau.

(b) Three new Employee Advisory Councils were established in the Bureau during the fiscal year 1953, one each at the Eastern, Southern and Western Regional Research Laboratories. An Employee Advisory Council was set up in the Northern Laboratory, Peoria, Illinois, in 1951 to determine the effectiveness of such councils in a large research installation. Experience gained during the trial operation of the council at Peoria led to the conclusion that Employee Advisory Councils are especially desirable and beneficial from the standpoint of the Bureau and employees generally. The councils serve in an advisory capacity to the Bureau Regional Directors on matters of general interest and welfare of a significant number of employees. Council membership consists of nonsupervisory employees elected by secret ballot.

(c) Incidental to the March 31 performance ratings, the Bureau initiated during fiscal year 1953 an extensive personnel review policy. Each supervisor at the time of the performance ratings was requested to make a comprehensive personnel review with each person for whom he has supervisory responsibility, this to include: (1) a review of the current official written description of the duties of the position and certification as to its accuracy, (2) a review of the employee's on-the-job performance, and discussion of the performance requirements of the position, (3) a review of the employee's qualifications and accomplishments, including additional educational attainments, and discussion of these

with the next higher supervisor. This three-fold review brings together into one operation those considerations required by the Performance Rating Act of 1950, the Whitten Amendment (Section 1310d of Public Law 253) and the Bureau's Career Program and Promotion Policy Statement. As a further step to this plan, the Chief of Bureau holds an annual personnel conference with each Regional Director for the purpose of reviewing the program planned by the Regional Director for the coming fiscal year in the development and advancement of members of the regional staff. This affords opportunity for the Chief of Bureau to be informed as to the potentialities for leadership of staff members and also to review the organizational pattern of the various divisions, sections and smaller field stations to assure appropriate organizational structure and balanced staff to achieve maximum research progress.

7. Reducing the Government's Share of the Cost of Research by Collaboration with Industry -

(a) Arrangements were made with a large feed cooperative to permit personnel of the Bureau to carry out trial runs on the Bureau process for minimizing the loss of vitamin A potency (carotene) through the application of oil soluble antioxidants. Thus initial cost, installation and operating expenses of thousands of dollars worth of equipment was avoided. Manpower costs were held to a minimum, but more important, a process was taken from the laboratory and was established as a practical, economically sound procedure.

(b) The cooperation of two commercial firms which employ experts in the fields of plastics, fibers, and films, was obtained in the evaluation of the utility of pinic acid derivatives, developed by the Bureau, useful in the manufacture of several industrial products such as plasticizers, softeners in plastics, and in compositions for the production of synthetic fibers and films. The savings in manpower and expensive equipment through this arrangement is estimated in the thousands of dollars.

(c) The Bureau's new mechanochemical method for the pulping of straw and bagasse aroused considerable interest in industry but understandable hesitancy existed in installing a new process unless proven on at least a small industrial scale. As the result of a single well-coordinated attack, utilizing the combined efforts of various organizations and firms having the necessary pilot-plant facilities, specialized equipment and experienced personnel, most of which was contributed without cost, successful large scale semicommercial runs have been made on this new Bureau process in the space of a few months without the purchase of costly equipment or drain on available manpower.

(d) The voluntary cooperation of several interested industrial organizations was enlisted for preliminary feed evaluation work on various antibiotic cultures produced in the Bureau in connection with its research on the development of better and cheaper antibiotic feed supplements. As a result, progress in the screening and evaluation of many different bacterial cultures has been greatly accelerated and the cost to the Government for this work greatly reduced.

(e) Arrangements were made for the Bureau to use, without cost, the specially constructed testing apparatus of a large tractor manufacturer in securing research data on engine-cylinder wear with alcohol fuels. Such equipment was not

available to the Bureau without costly delay. The research tests were completed promptly at a considerable savings through this cooperative arrangement.

8. Improved Techniques as Aids in Solving Research Problems and Conserving Manpower - (a) The use of a newly developed countercurrent extraction technique which performs multiple solvent extractions for the isolation and identification of fruit components, permits as many as 20,000 individual extractions during a 24-hour period and separates a fruit preparation into several chemical components or chemically similar groups of components. The machine not only effects a tremendous savings in professional manpower but makes it possible to undertake experiments which would otherwise be impossible to carry out.

(b) A method has been perfected for the preservation of the Bureau's culture collection, consisting of some 7,000 living microorganisms, many of which have already become important as stock cultures for such products as penicillin, citric acid, riboflavin and dextran. The process consists of suspending cells or spores in sterile blood serum, rapidly freezing, and drying under vacuum in small ampules which are then sealed and stored under refrigeration. The new system minimizes strain variations, and contamination, conserves valuable storage space because of the small size of the finished preparation, is easy to maintain and has conserved a great many manhours over the system formerly used which required the preparation of 14,000 to 20,000 agar slants each year.

(c) A rapid, reliable method was developed for molecular weight determinations as a guide for the clinical suitability of dextran, a blood volume expander to replace plasma. The new method utilizes light scattering photometers designed and constructed by the Bureau. Whereas the former procedure required at least one day of an operator's time for the completion of measurements on a single sample, the new simplified method permits adequate determinations for up to 25 samples per day by a single operator.

(d) With the use of newly developed calcium sequestering reagents and commercial enzymes, a procedure was developed for the rapid extraction of pectin from berries and fruits. The conventional method of analysis involved several extractions, two precipitations and a slow filtration. The analyst was limited to handling of but two samples at a time and a large amount of pectin was required for each analysis. The new procedure devised permits the chemist to make ten times as many analyses as heretofore and samples as small as a single raspberry can be used.

9. Improved Building and Property Management - (a) During the fiscal year a comprehensive survey was initiated on the operations of the regional laboratory store-rooms containing cupboard stocks of chemical and mechanical supplies. Complete analysis of each of the some 8,000 - 10,000 items at each laboratory is being undertaken with a view to determining use patterns and inventory levels. Procedures and practices are being reviewed and criteria and standards developed.

(b) Property utilization surveys have resulted in valuable improvements in house-keeping and laboratory and building management, as illustrated by the following examples:

(1) A critical study of refrigeration facilities at one of the regional research laboratories is underway to determine refrigeration requirements, need for repairs, replacement, reconditioning of facilities for the most economical operation, and maintenance requirements. Already several operating problems have been eliminated, and others have been brought to light.

(2) The large heating plant at one of the regional research laboratories was divided into separate stations or areas and each fireman serving on a rotating shift was assigned specifically to maintain one of these areas. Personal pride on the part of each fireman and the very positive designation of each individual's responsibility has resulted in a greatly improved standard of maintenance and has considerably lowered the overhead.

(3) As a result of the negligence of a painting contractor in the use of an acid, in the performance of his contract, paint, metal surfaces and critical stainless steel surfaces of food processing equipment, motors and parts of delicate control instruments, valued in excess of \$300,000, were rendered inoperable. Efforts by the contractor and his insurer to passivate the corrosion condition and restore the equipment and plant to operating condition were ineffective. The potential of all the staff at the laboratory where the incident occurred was ascertained. Experiments were quickly made of a variety of well-known metal treating products and a method for passivating the corrosion of the metal was devised. Likewise, a method for restoring the polished surface of the stainless steel was developed. A general plan was evolved for the assignment of all available mechanics and other personnel of the laboratory to this large-scale renovation operation. Within a short time the maximum achievable restoration had been attained and the entire facilities of the food processing laboratory placed in effective operation. (Claim has been made against the contractor by the Solicitor's Office for the damage to equipment and facilities as well as the total cost of restoration).

10. Major Areas of Potential Improvement Selected for Emphasis During the Current Fiscal Year - (a) With the completion of the report on the survey of needs for supervisory training in the Bureau, consideration will be given during the current fiscal year to the recommendations made with a view to possible implementation. This will require the formation of plans and marshalling of available talent to undertake specific training programs.

(b) An experimental Allotment Ledger Accounting System, designed by the Bureau with the cooperation of the Office of Budget and Finance, has been installed at one of the regional research laboratories to study possible improvements in this area. The experimental installation, it is expected, will prove to be simpler, while still featuring good records keeping and readily producible reporting material for management purposes.

